## Making Computer Assisted Auditing a Reality





IIA Presentation December 19, 2000

# Without DATA re just ano

you're just another "intellectually challenged" person!

Should Read...

# Without Information

you're just another "intellectually challenged"

person!





- Utilization by the audit function of CAATTs to achieve audit objectives
- Computer Assisted Audit Tools and Techniques (CAATTs) are defined as computer based tools / techniques which permit the auditor to increase their personal productivity as well as that of the audit function
- Allows auditors to audit through, rather than around, the computer faster then is possible manually and as much detail as necessary

#### **CAATT Examples**

#### **Tools:**

- Word processing
- Spreadsheets
- •Generalized Audit Software (ACL, IDEA, etc.)
- •E-mail

- Presentation Graphics
- •Flowcharting
- Database
- Data Management / Groupware
- Audit Management/Risk Analysis

#### **Techniques:**

- Data Extraction and Analysis
- Fraud Detection
- Continuous Monitoring
- •Network Security Assessment
- Automated Workpapers
- •E-Commerce Control
- •Internal Control Evaluation

• System-Based Approaches: Include routines built into the system, sampling, or parallel simulation.

• <u>Data-Based Approaches</u>: Commonly referred to as transaction or data-based auditing using tools such as Generalized Audit Software (GAS).

## **Audit Tools and Techniques**(Computer System Audit)

1970s	1980s	1990s
Programming Language	3 <sup>rd</sup> Generation Programming	4 <sup>th</sup> Generation Programming
Applications	Languages Applications	Languages Applications
1 <sup>st</sup> Generation Audit Software (Batch)	2 <sup>nd</sup> Generation Audit Software (Interactive and batch)	3 <sup>rd</sup> Generation Audit Software (PC-based interactive and batch)
Simple Parallel Simulations	Extensive Parallel Simulations	
Test Decks/Integrated Test	Test Decks/ITF	Comprehensive Data Analysis and Testing
Facilities (ITF)		
Input/Output Testing	SCARF/SARF (See definition below)	Integrated Audit Software
Internal Control Review (ICR)	Automated ICR Questionnaires	Integrated ICR Questionnaires
Questionnaires  Control Flowcharts	Program Flowcharting	Emphasis on Data Auditing
First Computer-based Monetary	More Developed Dollar-Unit	Diverse Sampling Options-Less
Unit Sampling	Sampling	Emphasis on Sampling
Control Matrices	Improved Control Matrices	Expert Systems

- Best practice of internal audit functions (IA Best Practices Council)
- Age of Information Technology: Increased volume of electronic data, absence of audit trail, decentralization, reliability of systems
- Do more with less add value to all audit phases
- Professional standards, other literature

- Increase audit coverage (i.e. 100% testing)
- Increase time for critical thinking
- Increase auditor understanding of business processes
- Unlock the door to creativity / enhanced problem-solving
- Portability of data and programs

- Technology advancements resulting in:
  - User friendly tools
  - Ease of data access / file transfer capabilities
  - Reduced cost and increased power of PCbased systems
  - Auditor empowerment (less dependent on IT)
  - GAS tools provide documentation of audit work

- CAATT tools support all types of analyses (financial and non-financial)
- Improve the integration of auditor skills
- Foster greater credibility for the audit organization
- Development of reusable computerized techniques

## **Audit Findings using CAATTS**

- Community college admissions and enrollment practices
- Child support program monitoring
- Prisoner security level and program classification system analysis
- Healthcare monitoring (insurance, medical services, Medicaid, etc.)

## The State of Michigan



Enterprise

#### State of Michigan Organizational Background

DMB Act (Act 431, 1984) establishes:

- DMB is responsible for maintaining a statewide system of internal control (\$36 billion enterprise)
- Internal Audit function at each of the (18) principal executive branch departments
- Guidance and requirements for management's evaluation of internal controls.

#### **OFM - TABS Mission**

Maintain a general framework for management's evaluation of internal controls and monitor the statewide system of internal controls

#### OFM's 1997 Assessment of Computer Assisted Auditing in Michigan

- Absence of standard Generalized Audit Software solution (ACL, IDEA, FOCUS, etc.)
- Absence of centralized computer auditing facility
- Inconsistent use of word processing, spreadsheets, ad-hoc query languages.
- Over 1,100 automated systems (Source: Y2K Inventory)
- Lack of common computer auditing user group

#### **OFM Conclusion**

The State needs a centralized computer auditing environment, utilizing the best software tool(s), effectively supported by a common user group

## Implementation Plan

### Implementation Plan

- Obtain Executive Leadership Support
- System Requirements
- System Design
- System Support
- Promotion, Logo, and it's "Free"

## Obtain Executive Leadership Support

## Dispel myths about computer assisted auditing:

- Too costly
- Too technical and complex for non-IT auditors
- Only for use by IT auditors
- Hands-on approach to auditing
- Client systems and data compromised

**NOTE: Proof of concept already proven (Office of the Auditor General)** 

Cont'd)

## Obtain Executive Leadership Support

- Interact with key players:
  - Office of the Auditor General
  - Director of Finance Systems
  - Director of MI Information Processing Center
- Get key IT folks on our side
- Sell to key leadership

Conclusion: "If we build it they will come." (Invest \$150K and provide service to agencies free of charge.)

### Requirements for a Computer Auditing Environment

#### Common Environment

- Implement a single suite of tools for use in performing analysis
- Learn / increase proficiency on a single tool and apply that to any information scenario

#### "One-Stop Shopping"

- Capable of storing / processing any data structure from any data source
- Easy to transfer data to this environment

#### Build Proficiency Among Internal Auditors

- Coordinate user group dialogue
- Establish standards for processing audit routines
- Enhance system capabilities as auditors' demands increase

## Requirements for a Computer Cont'd Auditing Environment

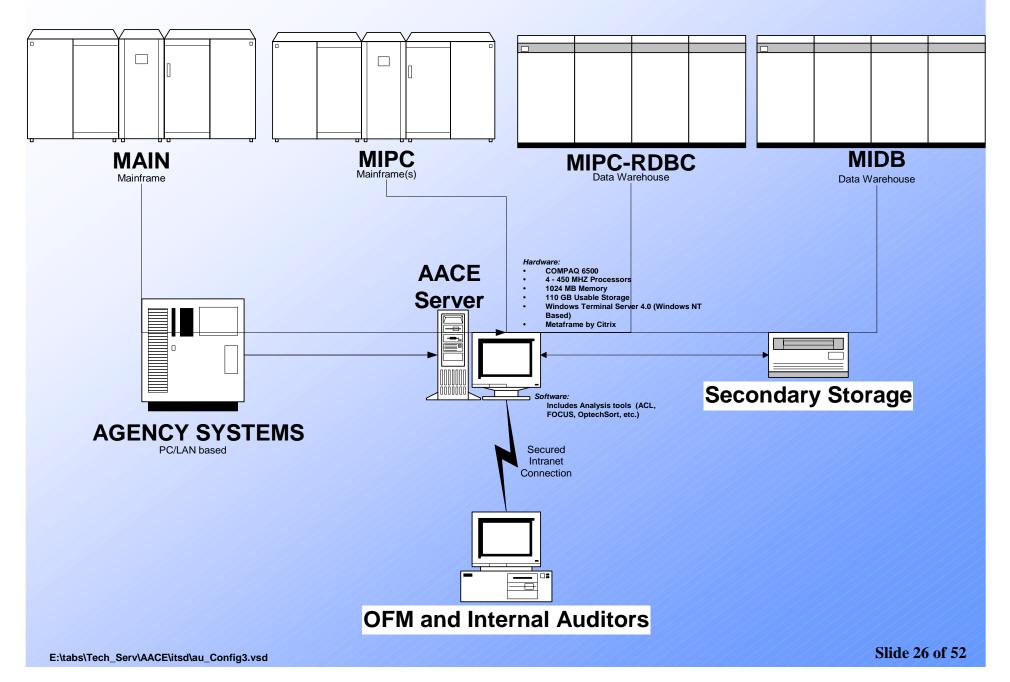
#### • Technical Specifications:

- Remote connectivity by all internal auditors and staff
- Industry leading Generalized Audit Software and Utility Software
- Adequate horsepower (processing speed, memory, storage)
- Session control of multiple jobs / users
- Ability to read, manipulate, and export a diverse set of data structures (mainframe, LAN, PC platforms) from anywhere in the State
- System backup / restore capabilities
- Security of Data (commensurate with other State applications)
- Technical support for system and audit software packages

## System Design

- High powered server (attachment), centrally maintained, connected to the State intranet with backup facilities.
- Windows NT / Terminal Server NOS
- Metaframe (admin, local control)
- Remote connectivity via Intranet (very thin client)
- Audit Command Language (ACL) (20 concurrent licenses)
- Desktop Focus 7.x
- Utility software (Syncsort, Monarch, MS Accessories)

#### Schematic of OFMs Audit and Analysis Computer Environment (AACE)



### System Design

#### **ACL Highlights:**

- Voted #1 by members of the IIA worldwide for:
  - Data extraction and analysis (36%, Spreadsheets 23%)
  - Fraud detection (50%)
  - Continuous monitoring (68%)
- Clients
  - 82 of the Fortune 100
  - Over 45% of the Global 500
  - All of the Big Five international public accounting firms

Source: Internal Auditor, Aug., 2000

#### Cont'd)

#### System Design

#### **AACE System Security:**

- Security audit of AACE
  - Configuration settings appropriate
  - Physical security issues
  - Document procedures / standards
- AACE access request forms
- Agency folder restrictions

### System Support

- Office of Financial Management (OFM-TABS) ACL
- Audit Command Language (ACL) ACL
- Information and Technology Support Division (ITSD) -Operating System, System Performance
- Michigan Information Center (MIC) Intranet Access
- AACE User Groups

#### **Promotion**

OFFICE of FINANCIAL MANAGEMENT Audit & Analysis COMPUTER ENVIRONMENT

Better than single user copy (\$2,000), it's free, plenty of support, access to any data. Come join the fun!

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## **Progress Notes**

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- Kickoff Meeting (October 1999) The concept of a computer auditing system is first presented. March 2000-AACE go-live date
- Training
  - On-site ACL (3 days)
  - OFM developed 4 hour intro., 4 hour intermediate
- User Group Meetings
- Financial Year-End-Closing FY 2000 Training
- User Growth
  - February 2000, 3 users
  - June 2000, 41 users
  - Today, 60 users
- Key departmental applications being developed
- Several proficient users emerging



# Ongoing Challenges and Future Plans



### **Continued AACE Challenges**

- Resistance to change (e.g. MS-Word vs. WordPerfect)
- Development of common applications
- Capacity planning
- Training to meet everyone's needs

#### **Future Plans**

- Enhanced Service Level Agreements with technical providers
- Deliver Phase II Financial Auditing Training and associated audit programs / techniques
- User Group Meetings
- Work with emerging proficient users and users that are "very interested, but don't know where to start"
- Promote successes
- Windows 2000 Conversion (improved administration features, monitor system utilization)
- Improve capacity planning model proactively plan future enhancements to system / performance capacity

#### **On-Line Demo**









## AACE Office of Financial Management State Budget Office

STATE of MICHIGAN DEPARTMENT of MANAGEMENT and BUDGET



## Internet Explorer Users:

Click on Image to the right to Launch

## First Time Netscape Users:

Save the Plug-In, to your desktop.
Once you have done that, exit Netscape, and double click on the WFPLUG32.exe file on your desktop to install.
Once that has completed, you may open Netscape come back to this page, and click on the image to the right.



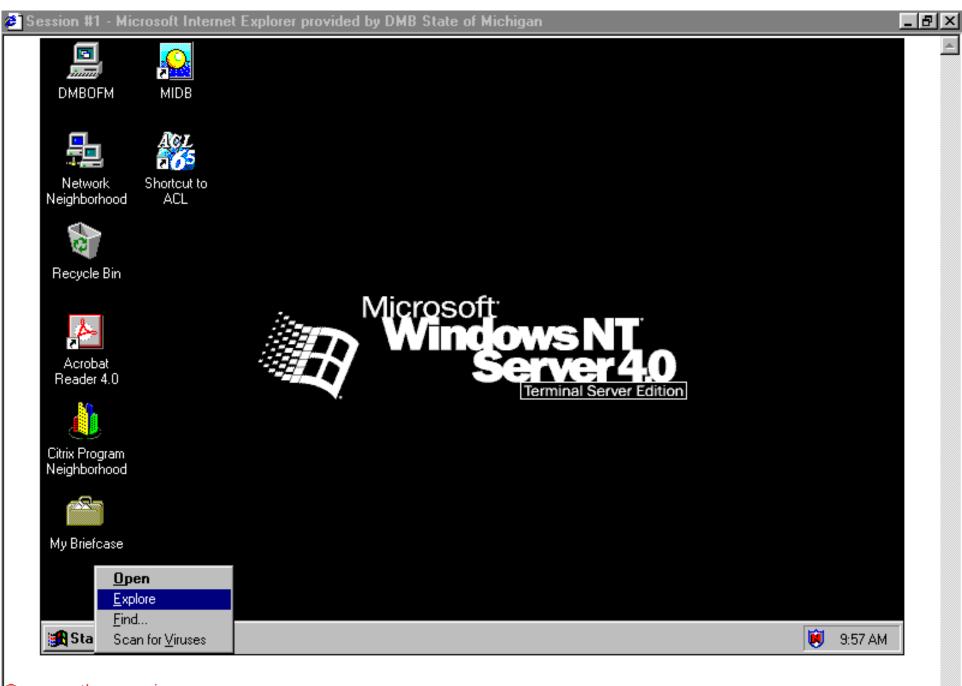
SECURITY

AACE NEWS

**FORMS** 

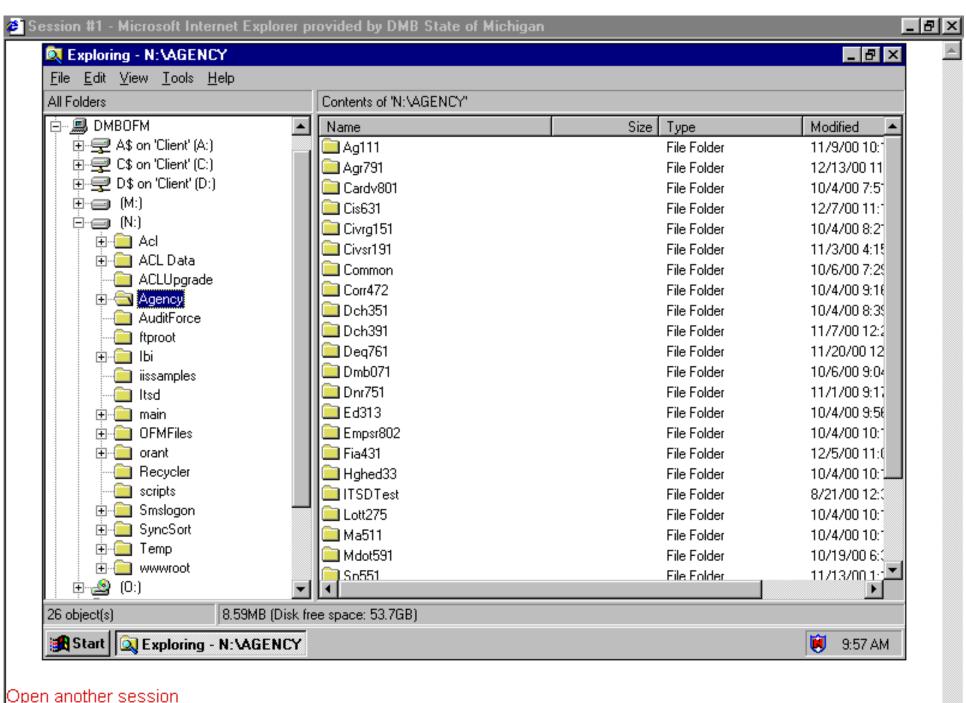
SUPPORT DESK

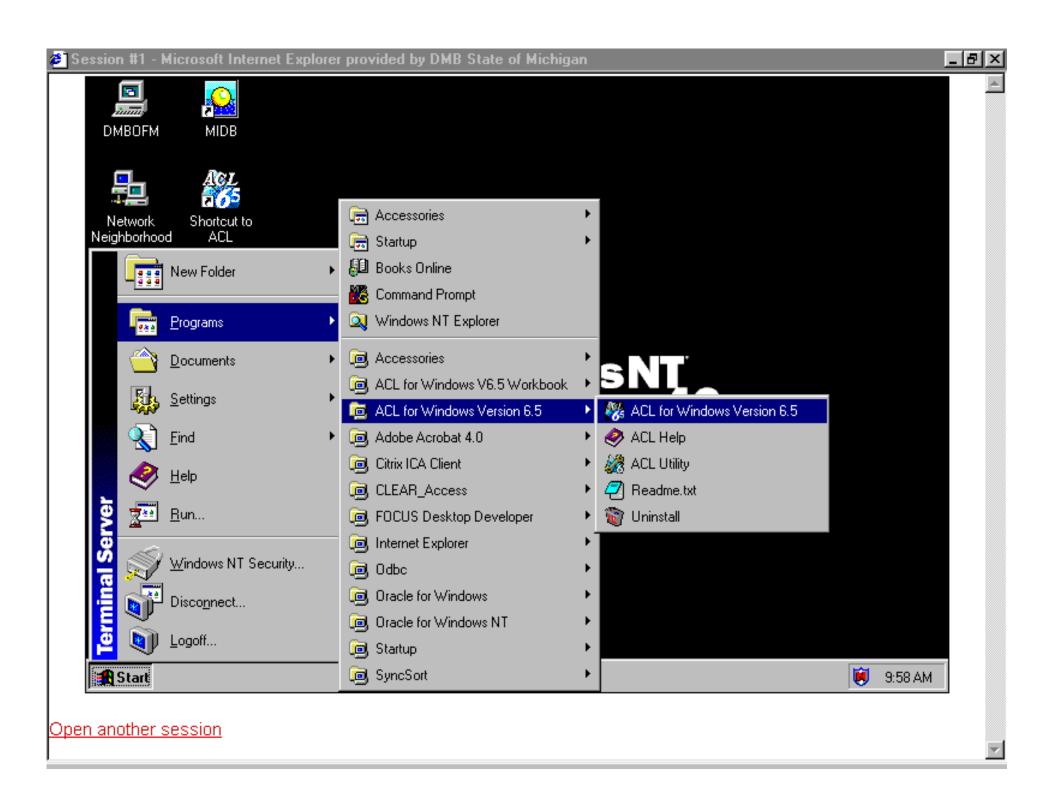
**W**elcome to the State of Michigan's <u>A</u>udit and <u>A</u>nalysis <u>C</u>omputer <u>E</u>nvironment (**AACE**). It is important that each user remember to exercise proper care of data analyzed on the AACE system. Your connection to AACE merely exchanges screen images to your personal computer from the AACE system. All of the data is stored on and processed by the AACE system.

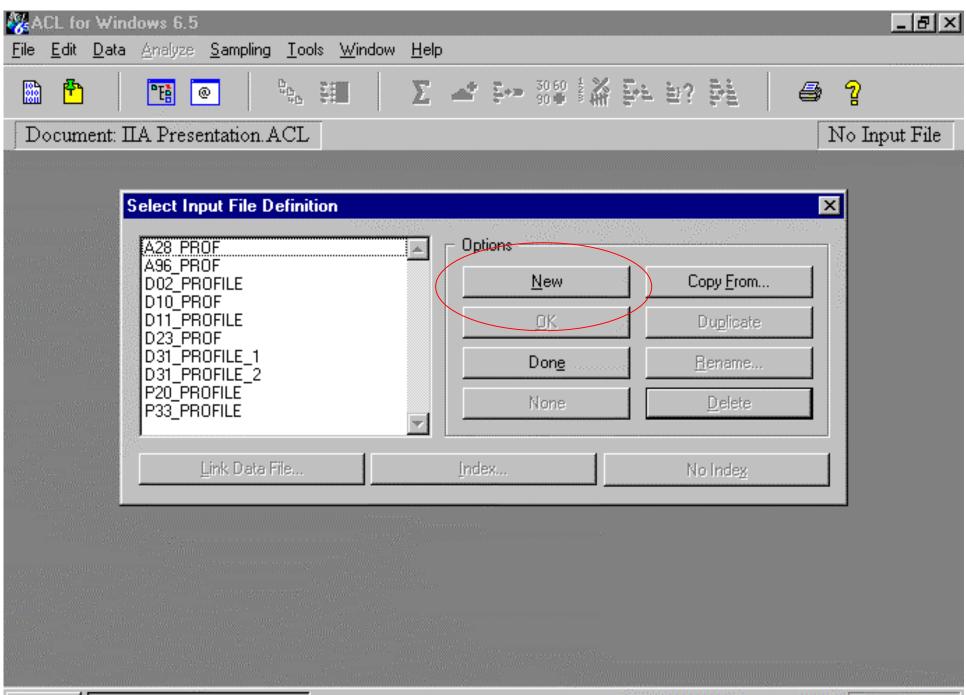


Open another session

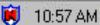
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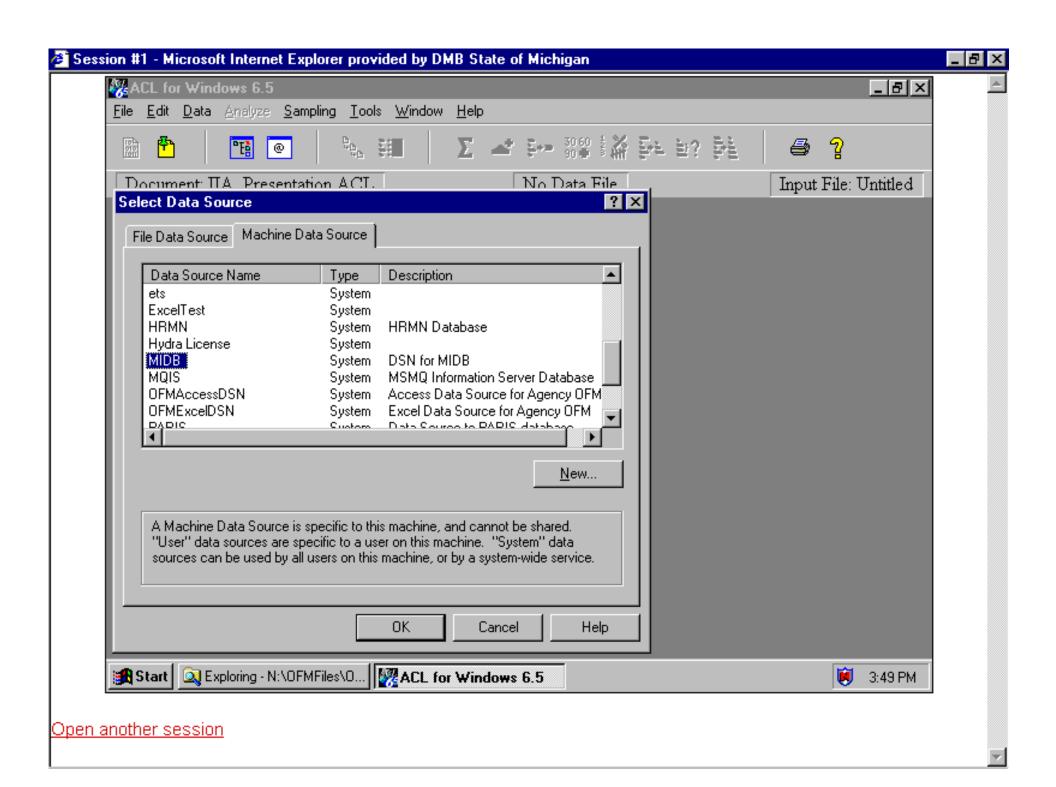


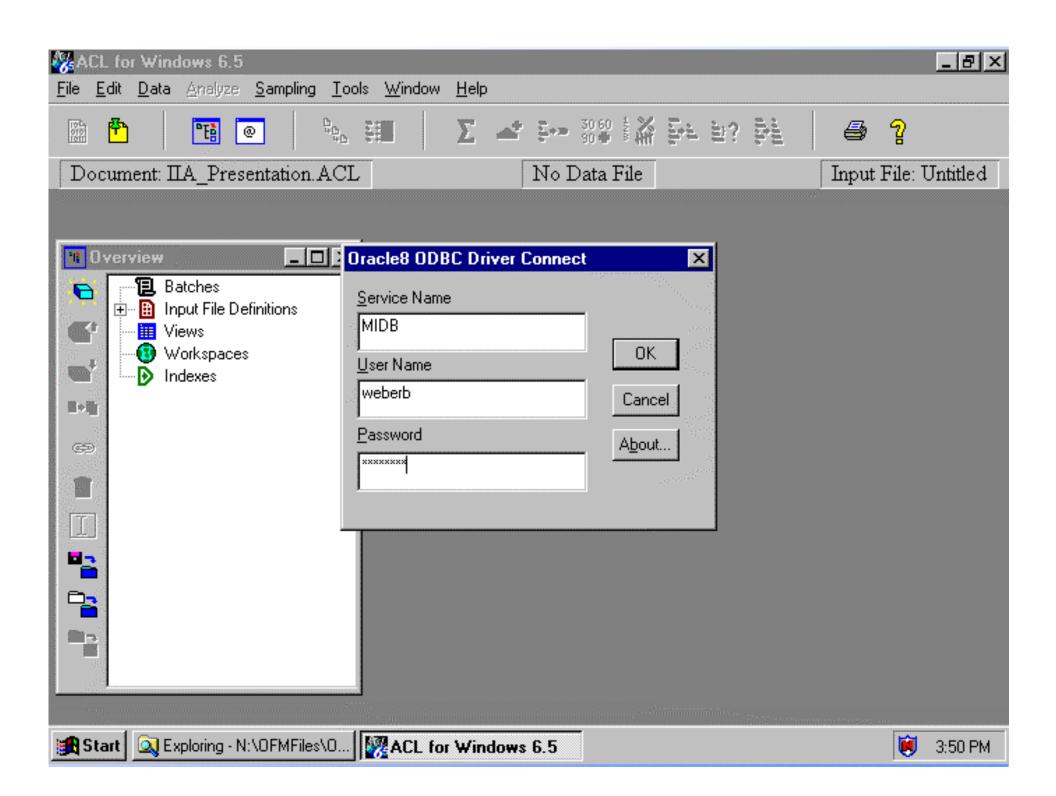


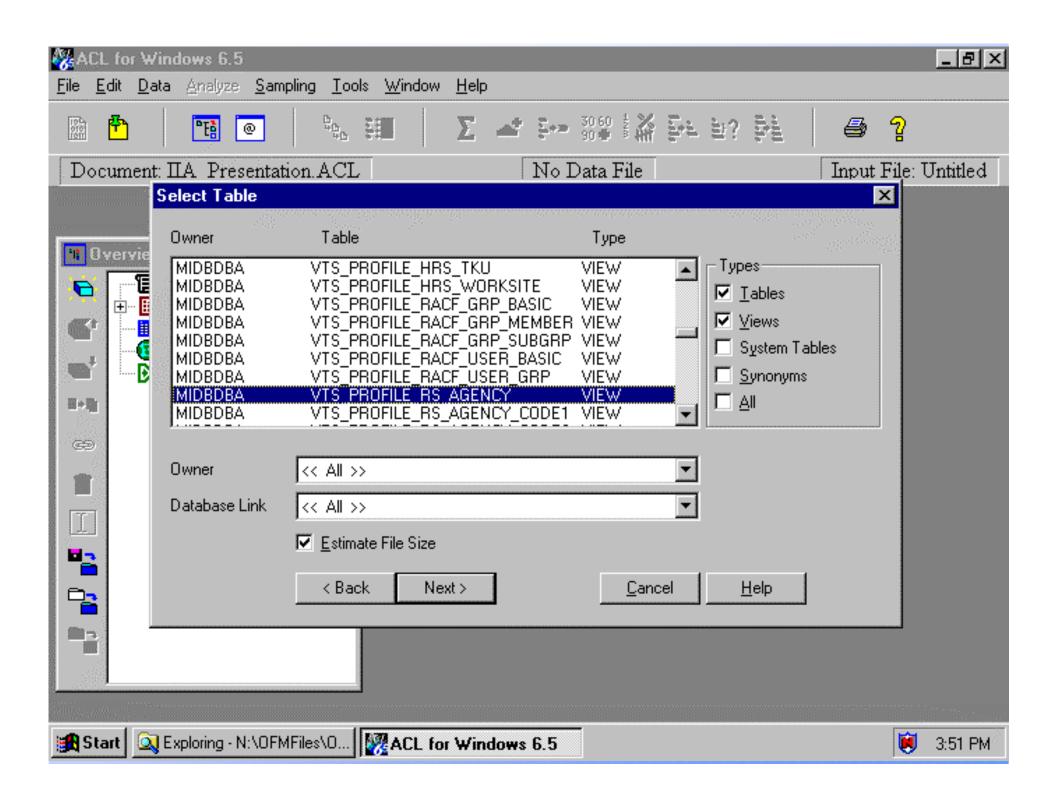


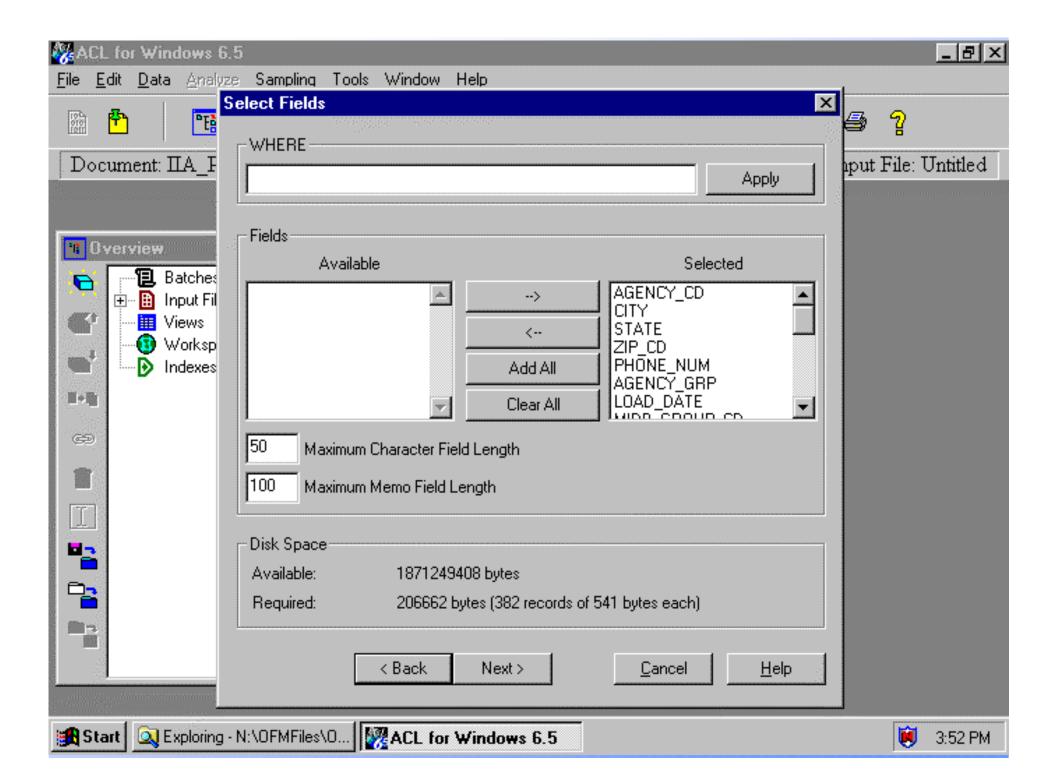


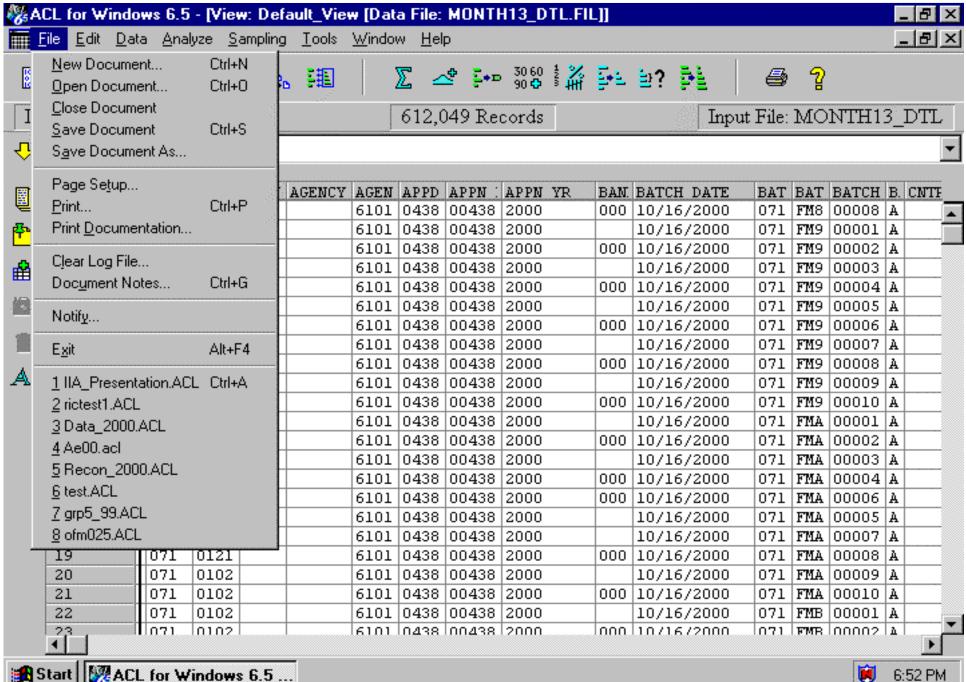


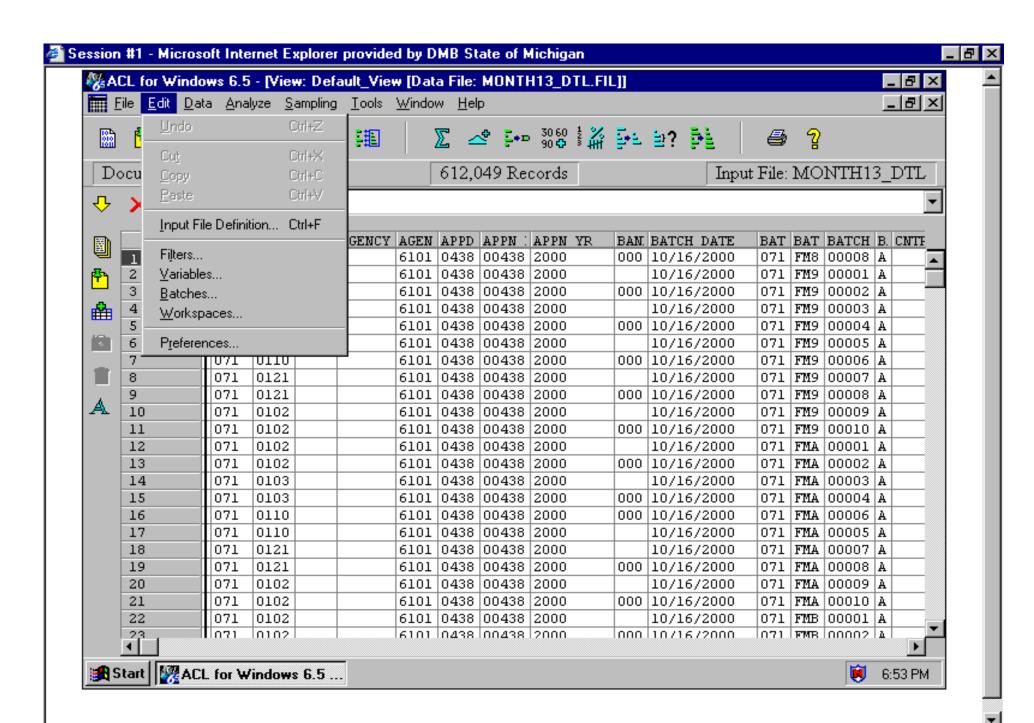


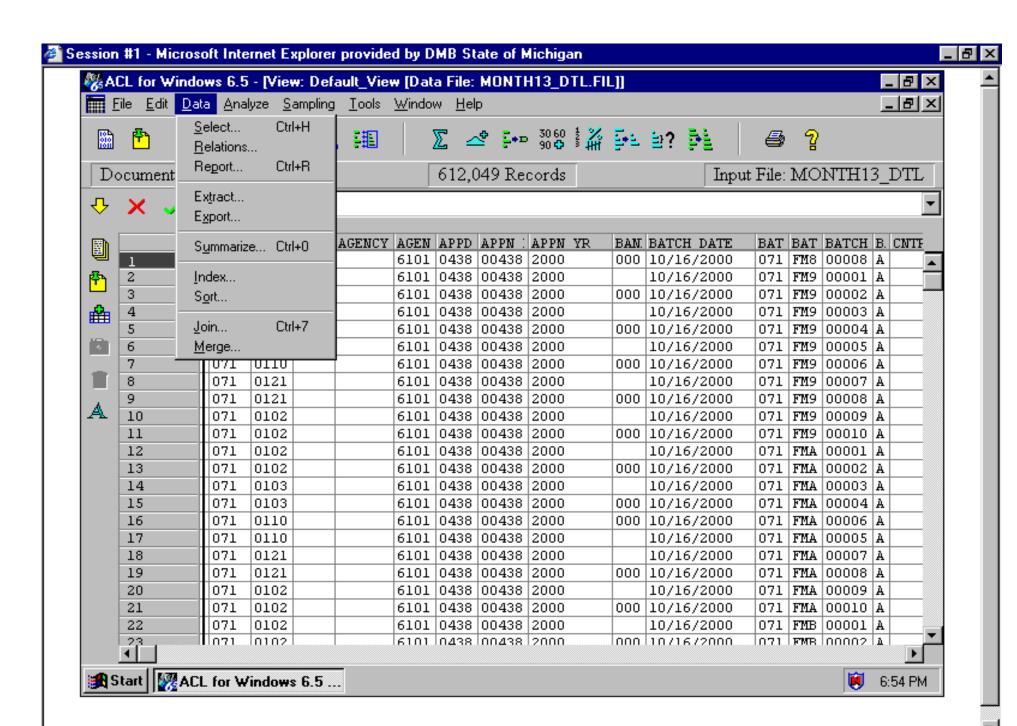












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